



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application Serial No. : 09/928,726

Filed: 08/13/2001

Inventor: JAEGER

Docket No.: 4143/CIP-3

Group Art Unit: 2674

Examiner: Nguyen

**For: M&A FOR DETECTING ACTUATION OF A CONTROLLER DEVICE  
ON A TOUCH SCREEN**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

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**AMENDMENT AFTER FINAL REJECTION**

**a.) Introductory Comments**

Receipt is acknowledged of the Office Action dated January 6, 2004, in which claims 1-17 and 22-29 are examined. The allowance of claims 1-11 and 22-29 is noted with appreciation, as is the allowability of claims 13-17. Only claim 12 stands rejected over prior art.

**b.) Amendments to the Specification**

No amendments to the specification are requested.

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c. ) **Amendments to the Claims**

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Claim 1. (Previously amended) -- In a touch screen system that has at least one physical control device operating on a touch screen, the improvement comprising:

a first antenna secured adjacent to the touch screen, and control circuit means for driving said first antenna to generate an EM field extending across the touch screen;

said at least one physical control device including resonant antenna means for receiving said EM field and re-radiating an electromagnetic response signal;

means for releasably adhering said at least one physical control device to said touch screen;

means for selectively operating said resonant antenna means to re-radiate said response signal when said physical control device is touched by a user, and for selectively disabling said resonant antenna means when said physical control device is not being touched by a user,

said control circuit further including means for receiving said response signal and entering a control command into an electronic device operatively associated with said touch screen assembly.

Claim 2. (original) -- The improved touch screen assembly of claim 1, wherein said touch screen employs a resistance-type touch detection arrangement.

Claim 3. (original) -- The improved touch screen assembly of claim 1, wherein said first antenna extends at least partially about the perimeter of said touch screen.

Claim 4. (original) -- The improved touch screen assembly of claim 1, wherein said resonant antenna means includes an inductor and a capacitor connected in a resonant circuit.

Claim 5. (original) -- The improved touch screen assembly of claim 4, wherein said means for selectively operating said resonant antenna includes finger touch connection means for completing said resonant circuit upon receiving a finger touch.

Claim 6. (original) -- The improved touch screen assembly of claim 1, wherein said control circuit means includes means for generating a periodic signal for driving said first antenna.

Claim 7. (original) -- The improved touch screen assembly of claim 6, wherein said control circuit means includes means for modulating said periodic signal.

Claim 8. (original) -- The improved touch screen assembly of claim 7, wherein said first antenna serves as a receiving antenna for picking up said

response signal, and said means for receiving said response signal is connected to said first antenna.

Claim 9. (original) -- The improved touch screen assembly of claim 6, wherein said means for receiving said response signal includes means for detecting said response signal when said periodic signal is in an OFF state.

Claim 10. (original) -- The improved touch screen assembly of claim 9, wherein said means for receiving said response signal includes counter means for detecting said modulated periodic signal.

Claim 11. (original) -- The improved touch screen assembly of claim 10, wherein said counter means is synchronized by said periodic signal.

Claim 12. (currently amended) -- In a touch screen system that has at least one physical control device operating on a touch screen, the improvement comprising:

a first antenna secured adjacent to the touch screen, and control circuit means for driving said field antenna to generate an EM field extending across the touch screen;

said at least one physical control device including resonant antenna means for receiving said EM field and re-radiating an electromagnetic response signal;

means for selectively operating said resonant antenna means to re-radiate said response signal when said physical control device is touched by a user, and for selectively disabling said resonant antenna means when said physical control device is not being touched by a user,

said control circuit further including means for receiving said response signal and entering a control command into an electronic device operatively associated with said touch screen assembly, wherein said physical control device includes a post assembly ~~adapted to operate in stationary fashion at one location on the touch screen~~, said post assembly including a base portion having a surface adapted to releasably engage said touch screen.

Claim 13. (canceled) -- The improved touch screen assembly of claim 12, wherein said post assembly includes a base portion having a surface adapted to releasably engage said touch screen.

Claim 14. (currently amended) -- The improved touch screen assembly of claim ~~13~~ 12, wherein said resonant antenna means includes an inductor coil secured within said base portion.

Claim 15. (original) -- The improved touch screen assembly of claim 14, wherein said base portion is generally cylindrical, and said inductor coil is disposed in coaxial alignment with said base portion.

Claim 16. (currently amended) -- The improved touch screen assembly of claim ~~43~~ 12, wherein said post assembly includes a outer crown end, and said means for selectively operating said resonant antenna includes a plurality of switch contacts secured to said crown end.

Claim 17. (previously amended) -- In a touch screen system that has at least one physical control device operating on a touch screen, the improvement comprising:

a first antenna secured adjacent to the touch screen, and control circuit means for driving said first antenna to generate an EM field extending across the touch screen;

said at least one physical control device including resonant antenna means for receiving said EM field and re-radiating an electromagnetic response signal;

means for selectively operating said resonant antenna means to re-radiate said response signal when said physical control device is touched by a user, and for selectively disabling said resonant antenna means when said physical control device is not being touched by a user,

said control circuit further including means for receiving said response signal and entering a control command into an electronic device operatively associated with said touch screen assembly,

wherein said physical control device includes a pen;

said pen includes a tip adapted to selectively provoke a touch detection by said touch screen;

said resonant antenna means includes an inductor coil and capacitor secured within said pen;

said means for selectively operating said resonant antenna includes touch contact means on a barrel portion of said pen for completing a circuit between said inductor coil and said capacitor.

further including cover means movably secured to said barrel portion, said cover means including a sleeve-like member extending conformally about a portion of said barrel and being selectively movable concentrically on said barrel portion to cover and uncover said touch contact means and prevent or enable operation of said touch contact means.

Claim 18. (cancelled) -- The improved touch screen assembly of claim 17, wherein said pen includes a tip adapted to selectively provoke a touch detection by said touch screen.

Claim 19. (cancelled) -- The improved touch screen assembly of claim 18, wherein said resonant antenna means includes an inductor coil and capacitor secured within said pen.

Claim 20. (cancelled) -- The improved touch screen assembly of claim 19, wherein said means for selectively operating said resonant antenna includes touch contact means on a barrel portion of said pen for completing a circuit between said inductor coil and said capacitor.

Claim 21. (cancelled) -- The improved touch screen assembly of claim 20, further including cover means movably secured to said barrel portion, said cover means being selectively positionable to prevent operation of said touch contact means.

Claim 22. (original) -- The improved touch screen assembly of claim 6, wherein said periodic signal is unmodulated.

Claim 23. (original) -- The improved touch screen assembly of claim 22, wherein said first antenna serves as a receiving antenna for picking up said response signal, and said means for receiving said response signal is connected to said first antenna.

Claim 24. (original) -- The improved touch screen assembly of claim 22, wherein said means for receiving said response signal includes means for detecting said response signal when said periodic signal is in an OFF state.

Claim 25. (original) -- The improved touch screen assembly of claim 1, further including means for correlating said response signal with the position of a touch detection signal from said touch screen to form inputs to said electronic device.



Claim 26. (Previously amended) -- In a touch screen system that has at least one physical control device operating on a touch screen associated with an electronic device, a method for signaling the electronic device from the physical control device, including the steps of:

releasably adhering said at least one physical control device to said touch screen;

transmitting an EM field in the area adjacent to the touch screen;

providing a resonant antenna in said at least one physical control device, said resonant antenna tuned to said EM field;

selectively operating said resonant antenna to generate a response signal when said physical control device is touched by a user, and selectively disabling said resonant antenna when said physical control device is not being touched by a user,

receiving said response signal and entering a control command into the electronic device.

Claim 27. (original) -- The method of claim 26, wherein said receiving step is carried out during OFF cycles of said EM field.

Claim 28. (original) -- The method of claim 26, further including the step of modulating said EM field.

Claim 29. (original) -- The method of claim 26, further including the step of correlating said response signal with the position of a touch detection signal from said touch screen to form an input to said electronic device.

**d.) Remarks**

In the present Action, only claim 12 stands rejected over the Liao reference. Applicant has taken a decision to yield on this point and amend rejected claim 12 to add the substance of allowable claim 13, which is now canceled. Therefore claim 12 should now be allowed.

The instant rejection states that the pen of Liao can be broadly interpreted as a post. Although applicant does not agree with this position, the rejection fails to find sufficient merit in applicant's previous amendment to claim 12; i.e., the post assembly "adapted to operate in stationary fashion at one location on a touch screen." Therefore, applicant has deleted this phrase in the current amendment of claim 12.

The instant rejection as well as the *Response to Arguments* section of the Action indicate that the examiner finds posts and pens to be generally equivalent in the claimed setting. This finding is stated for the record, and it is hoped this finding will inure to the benefit of applicant in the future.

Applicant asserts that this Amendment After Final Rejection should be entered in the record, due to the fact that it resolves all remaining issues and places the application in condition for issuance.

All claims now presented have been indicated as allowed or allowable, or have been amended to become allowable, and this application is now in condition to be passed to issue. Action toward that end is earnestly solicited.

Respectfully Submitted,



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